AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application. Applicant has submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Listing of Claims:

1. (Currently Amended) A method for determining the capabilities of a media system, the method comprising:

querying each of one or more functional objects in the media system to determine a functional limit of each of the one or more objects for a predetermined function; and

determining which of the functional limits of the one or more objects maximally limits ~~the~~ a capability of the media system for the predetermined function.

2. (Original) The method of claim 1 wherein the predetermined function is a maximum playback rate of a multimedia stream.

3. (Original) The method of claim 2 further comprising determining a minimum of the maximum reported playback rates.

4. (Currently Amended) The method of claim 2 further comprising determining a minimum playback rate and the maximum playback ~~rates~~ rate in a set of modes including: reverse skip mode, reverse key frame mode, reverse full mode, forward full mode, forward key frame mode, forward skip mode.

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5. (Original) The method of claim 1 wherein the one or more functional objects include a media source object, a transform object, and a media sink object.

6-23. (Canceled)

24. (Original) A multimedia system comprising: a control layer configured to receive one or more media data streams from an application; and a core layer coupled to the control layer, the control layer including a media engine component configured to query each of one or more core layer components in the multimedia system to determine a functional rate limit of each core layer component for a predetermined function, the media engine configured to determine which of the functional limits of the core layer components maximally limits the multimedia system.

25. (Original) The multimedia system of claim 24 wherein the core layer includes: one or more media sources coupled to the control layer, the media sources configured as inputs to the multimedia system; one or more stream sources coupled to the control layer, the stream sources providing the media data streams; one or more transforms coupled to the control layer, the transforms configured to operate on the media data streams; one or more media sinks coupled to the control layer, the media sinks configured to operate as outputs for the media data streams; and one or more stream sinks coupled to the control layer, the stream sinks configured to store or render the media data streams.

26. (Original) The multimedia system of claim 24 wherein the control layer includes: the media engine; a topology loader configured to identify data flow; a media session configured to interface with core layer components; and a media processor configured to perform transforms on the media data streams.

27. (Original) The multimedia system of claim 24 wherein the media engine interacts with a plurality of components in the core layer and the control layer to provide rate changes and rates, the media engine configured to use floating point values to linearly indicate a speed of playback.

28. (Original) The multimedia system of claim 27 wherein a negative rate specifies a backward playback.

29. (Original) The multimedia system of claim 24 wherein the core layer further includes a media source, the media source configured to provide a presentation timestamp for media samples on the media stream, the samples configured to preserve the presentation timestamp independent of a rate for media playback.

30. (Original) The multimedia system of claim 24 wherein the multimedia system further includes a presentation clock configured to run time according to a current rate, and the core layer further includes one or more media sinks coupled to the presentation clock, the media sinks configured to display data according to the presentation clock and independent of non-presentation clock component timestamps.

31. (Currently Amended) The multimedia system of claim 24 wherein the media engine is configured to respond to requests for rate direction changes by playing out any remaining content up to a timestamp of a direction change, discarding any data in a pipeline, setting a rate of playback and restarting playback in an opposite direction in accordance with the direction change.

32. (Original) The multimedia system of claim 31 wherein data repeated after the restarting playback is discarded.

33. (Original) The multimedia system of claim 31 wherein the media engine is configured to be independent of tracking multiple playback rates unless the rates are within a same mode.

34. (Original) The multimedia system of claim 33 wherein one or more components in the core layer are configured to maintain a list of pending rate changes, each component having active only one rate at a time, each component configured to maintain a playback rate independent of tracking rate changes.

35. (Original) The multimedia system of claim 24 wherein the media engine is configured to support backward decoding for coder-decoders that do not support backward decoding, the media engine configured to perform forward decoding, and reverse any decoded samples.

36. (Original) The multimedia system of claim 35 wherein the reversed decoded samples are available for reuse.

37. (Canceled)

38. (Original) A computer-readable medium having computer-executable instructions for determining the capabilities of a multimedia system, the computer-executable instructions performing acts comprising: querying each of one or more functional objects in the media system to determine a functional limit of each of the one or more objects for a predetermined function; and determining which of the functional limits of the one or more objects maximally limits the capability of the media system for the predetermined function.

39. (Original) The computer-readable medium of claim 38 wherein the predetermined

function is a maximum playback rate of a multimedia stream.

40. (Original) The computer-readable medium of claim 39 further comprising determining a minimum of the maximum reported playback rates.

41. (Currently Amended) The computer-readable medium of claim 39 further comprising determining a minimum and maximum playback rates in a set of modes including: reverse skip mode, reverse key frame mode, reverse full mode, forward full mode, forward key frame mode, forward skip mode.

42. (Original) The computer-readable medium of claim 38 wherein the one or more functional objects include a media source object, a transform object, and a media sink object.

43-65 (Canceled)